

## CONSTRUCTION SPECIFICATION

### NV-81. METAL FABRICATION AND INSTALLATION

#### 1. SCOPE

This work shall consist of furnishing, fabricating and erecting metalwork, including the metal parts and fasteners of composite structures.

#### 2. MATERIALS

Steel shall be of structural quality unless otherwise specified. Finished surfaces shall be smooth and true to assure proper fit.

Structural Steel (plates, bars, and structural shapes) shall conform to the requirements of ASTM Specifications A 36, A 242, A 283, A 526, A 569, A 570 and A 575.

Aluminum Alloy 6061-T6 shall be used unless otherwise specified. (Plates, bars, and structural shapes shall conform to the requirements of ASTM Specifications A 36, B 209, B 210, B 211, B 308 and B 429.

Fasteners (bolts, nuts and washers) shall conform to the requirements of ASTM Specifications A 307 and A 325.

Rivets shall conform to the requirements of ASTM Specifications A 502 for steel rivets and ASTM B 316.

Welding Electrodes. Steel welding electrodes shall conform to the requirements of the American Welding Society Specification AWS A5.1. Aluminum welding electrodes conform to the requirements of the American Welding Society Specification AWS A5.10.

Protective Coatings shall be of a coal tar polyamide epoxy paint suitable for use on structural steel and shall meet Paint Specification No. 16, Type 1, Class II, of the Steel Structural Painting Council (SSPC) or a zinc (hot-dip galvanized) coating conforming to the requirements of ASTM Specification A 653, Standard Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

#### 3. FABRICATION

Fabrication of structural steel shall conform to the requirements of Section 1.23 of the "Specification for the Design, Fabrication and Erection of Structural Steel for Buildings", American Institute of Steel Construction (AISC).

Fabrication of structural aluminum shall conform to the requirements in the Aluminum Design Manual available from The Aluminum Association.

#### 4. ERECTION

The frame of metal structures shall be installed true and plumb. Temporary bracing shall be placed wherever necessary to resist all loads to which the structure may be subjected, including those applied by the installation and operation of equipment. Such bracing shall be left in place as long as may be necessary for safety.

As erection progress the work shall be securely bolted up, or welded, to resist all dead load, wind and erection stresses. The Contractor shall furnish such installation assisting bolts, nuts and washers as may be required.

No riveting or welding shall be performed until the structure is stiffened and properly aligned.

Rivets driven in the field shall be heated and driven with the same care as those driven in the shop.

All field welding shall be performed in conformance to the requirements for shop fabrications, except those that expressly apply to shop conditions only.

Galvanized items shall not be cut, welded or drilled after the zinc coating is applied.